5



## **ABSTRACT**

In a wireless communications system, a base station employs a bit error rate (BER) based Reverse Outer Loop Power Control (ROLPC) technique. The ROLPC technique uses either instantaneous or weakly filtered values of the BER for comparison with a BER target value for adjusting a target signal-to-noise ratio (SNR). The BER target value is varied as a function of a second order statistic (e.g. variance, standard deviation) of the received SNR. In another embodiment, a symbol error count based ROLPC technique uses adaptive SER targets. In particular, a base station uses a  $2^{nd}$  order statistic, e.g., standard deviation (variance), to identify, or act as a signature of, a particular cellular (wireless) communications environment. The base station monitors the standard deviation of the symbol error count of a received signal (transmitted from a mobile station). The target signal-to-noise ratio  $((E_b/N_0)_T)$  of this received signal is adjusted as a function of the value of the standard deviation and the adjusted  $(E_b/N_0)_T$  target is used to provide power control.